



INTERNAL AUDIT REPORT

INVESTIGATION

SCHOOL TELECOM PROCUREMENT

October 11, 2005

Roanoke City School Board Audit Committee
Roanoke, Virginia

We have completed our audit of school telecom procurement. Our audit was performed in accordance with generally accepted government auditing standards.

BACKGROUND

It is the policy of the Roanoke City School Board to encourage full and open competition whenever practicable among potential contractors and suppliers through competitive bidding practices. Purchases of goods and services under \$25,000 may be procured on the basis of "open market" or informal quotes. Purchases in excess of \$25,000 are procured through a formal bidding process. All procurements made by the school division are required to be in accordance with the Virginia Public Procurement Act. The School Board specifically prohibits employees directly or indirectly associated with purchasing, or with making recommendations for purchases, from accepting gratuities, financial consideration or any other consideration, regardless of value, from present or prospective suppliers of equipment or services to the Board.

The Office of Technology and Information Services is responsible for procuring telecom equipment and installation services for the various buildings in the school division. The Office of Technology's Network Coordinator is responsible for managing the school division's telecommunications equipment and infrastructure. The Network Coordinator writes the specifications for installing networks, obtains quotes from vendors, provides the necessary information to prepare purchase orders, and inspects the vendor's final work before approving payment. Network installations involve running cable, installing data drops, racks and network switches.

Network switches typically cost between \$1,000 and \$4,500 each. The average cost of telecom equipment and installation services reviewed in this audit was \$5,735 with individual costs ranging from a low of \$1,895 to a high of \$17,120. Telecom expenditures are accounted for in the building and building improvement accounts, along with other general construction expenses. Based on payments to two telecom vendors, we identified \$792,000 in telecom related expenditures since July 1, 2000. The data, voice and video cable system in the new Patrick Henry High School will cost in excess of \$500,000.

Telecom purchases must be made in accordance with the division's procurement policies. These policies require departments to obtain three quotes from qualified vendors for purchases under \$25,000. The department must award the work to the vendor with the lowest quote. Quotes should be documented on a "Request for Quotation" form and filed with the related purchase order. Telecom assets also meet the threshold for tagging and entry into the division's fixed asset system.

Installation of telecom infrastructure for projects such as the new high schools exceeds the \$25,000 threshold and must be procured using the sealed bidding process. The Patrick Henry High School project includes a data, voice, and video cabling component as one of the 23 bid packages in phase one of the project. The detailed specifications for the data, voice, and video cabling system were developed by the School division's Office of Technology. The invitation to bid was mailed to prospective vendors as well as publicly advertised by the Purchasing department. Vendors were asked to submit sealed bids with a fixed, lump sum price for the project.

The School division has contracted with J. M. Turner Company to provide construction management services. As construction manager, J. M. Turner Company is responsible for scheduling, costs controls, and quality assurance on the project.

SCOPE

We reviewed selected purchases of telecom installation services over the period July 1, 2000, through June 30, 2005. We evaluated the development of the data, voice, and video cabling specifications [ITB # 2332] for Patrick Henry High School.

OBJECTIVES

The objective of the audit was to determine if telecom equipment and installation services have been procured by the Roanoke City Public School System on the basis of fair and open competition.

METHODOLOGY

We performed research to document the laws and regulations that govern telecom purchases, acceptance of gifts and gratuities by public employees, and acceptance of kickbacks. We interviewed school employees to determine the procedures followed in procuring telecom equipment and installation services. We researched telecom products and trends by reviewing manufacturer web sites and whitepapers, as well as interviewing telecom industry employees. Our interviews included representatives with telecom manufacturers, distributors, and installers. We tested informal quotes to determine the number of quotes received from individual vendors, the timing of quotes, and average win margin. We asked vendors to confirm a sample of quotes attributed to them to ensure their validity. We attempted to verify that telecom equipment purchased through informal quotes was installed according to specifications documented on the purchase orders. We interviewed vendor representatives and reviewed vendor records to determine if gifts or gratuities have been provided to school employees involved in

procuring their services. We had the data, voice, and video cabling invitation to bid evaluated by a Registered Communications Distribution Designer [RCDD]. We also evaluated the process followed in developing the bid specifications in the invitation to bid and attempted to determine if existing control processes were followed.

RESULTS

Based on the results of our audit work, we cited the following concerns:

Finding 01 – Technology Inventory

School Board Policy ECA requires that the Superintendent devise an adequate system to inventory school property. The inventory shall include buildings, movable equipment, vehicles, and all other items of significant value. Each school shall keep a complete inventory of all equipment, listing make, source, and date of purchase, model, serial number, and other identifiable information.

In support of Board Policy ECA, the School division has administrative regulations that require all assets costing \$500 or more to be tagged and entered into the fixed asset system maintained by the division's Warehouse operation. The assets can be reported by location and each location is required to confirm the accuracy of the inventory listed in the system annually.

Based on our review work, we determined that telecommunications switches have not been entered into the school division's fixed asset inventory. We also determined that the Office of Technology does not keep alternative records that document the location, costs, installation date, disposal date, or warranty information for individual switches. During the course of the audit, the Office of Technology inventoried the existing switches, recording a description of each switch, the location and the serial number.

One of the objectives of our audit was to determine if telecom switches paid for by the school division were installed. We selected a number of purchase orders and attempted to confirm that telecom equipment was installed according to the specifications on the purchase orders. Due to the poor records available and the generic descriptions of equipment on vendor invoices, we were unable to conclude on the existence of all telecom switches. We could conclude that in one case, the telecom equipment purchased was not installed as specified on the original purchase order. This purchase involved three Cisco switches costing \$6,161 to be installed at Noel C. Taylor Learning Academy based on the approved purchase order. We found that the switches located at Noel C. Taylor were purchased on a purchase order issued just one week prior to the purchase order we were reviewing. Working through the vendor that invoiced the equipment and the vendor's wholesaler, we were able to obtain the serial numbers for the switches in question. Based on the inventory of switches compiled by the Office of Technology, two of the switches were installed at Grandin Court Elementary. We attempted to use the manufacturer's warranty records to confirm the location of the third switch. In the process, we determined that the wholesaler had made mistakes in staging the equipment for pick up by the installer. As a result, the

wholesaler registered the wrong serial numbers with the manufacturer. At least two telecom switches on Roanoke's inventory are listed by the manufacturer as having been installed at Allegheny Highlands Public School System. The missing switch is also reported by the manufacturer as having been installed at Allegheny.

Based on the facts that telecom assets have not been inventoried and tracked, and based on the fact that telecom switches were approved for purchase for Noel C. Taylor when none were needed, we can conclude that telecom assets in the school division have not been adequately safeguarded.

Recommendation 01 – Technology Inventory

The Office of Technology and Information Services should create detailed procedures to record the serial number, description, cost, installation date, location, PO number, and warranty period for every switch purchased and installed. This information should be entered into the new fixed asset system. An annual inventory of all telecom assets should be completed as required by division policy.

Finding 02 – Bid Specification Development

School Board Policy DJA requires that the school division encourage full and open competition whenever practicable among potential contractors and suppliers by using competitive bidding practices.

The school division's administrative regulations specify that goods and services costing \$25,000 or more are to be procured through a formal bid process. The process is controlled centrally to help ensure invitations to bid encourage fair and open competition, encourage participation by small, minority and women-owned businesses, and protect the interest of the school division. Bid specifications are required to be of sufficient specificity to ensure vendors bid comparable quality goods and services.

The school division also engaged a construction manager [CM] for the Patrick Henry High School project and several aspects of the contract support Policy DJA.

The CM is required to act toward fulfilling the following goals:

- Maximize the utilization of local minority and women-owned businesses to the greatest extent possible.
- Provide assurance of budget adherence.
- Provide a process that minimizes change orders.
- Assure fairness in the awarding of the various contracts and subcontracts.

The CM scope of services includes:

- Review design documents during their development and advise architect on the proposed site and building design, selections of materials and systems, etc., and make suggestions to improve cost effectiveness of the design.
- Advise the school division of recommended bidding procedures.

The CM is to be involved in cost controls:

- CM shall prepare a construction plan and market survey and use both as the basis for a construction budget.
- CM shall prepare an estimate of the construction costs for each submittal of design drawings and specifications from the designer.

The CM shall assist the school division in developing lists of possible bidders and in pre-qualifying bidders. This service shall include preparation and distribution of questionnaires; interviewing possible bidders, bonding agents and financial institutions; and preparing recommendations. The CM shall prepare a list of prospective bidders for each bid package.

The Code of Virginia, § 2.2-4336. Bid bonds. -- A. Except in cases of emergency, all bids or proposals for construction contracts in excess of \$100,000 shall be accompanied by a bid bond from a surety company selected by the bidder that is authorized to do business in Virginia, as a guarantee that if the contract is awarded to the bidder, he will enter into the contract for the work mentioned in the bid. The amount of the bid bond shall not exceed five percent of the amount bid.

Based on our review of the invitation to bid # 2332 and testimony from local vendors in the telecom field, we noted the following concerns:

- The School division's Network Coordinator used a local manufacturer's representative to write the specifications for the invitation to bid. The representative specified his company's product throughout the document. Equivalents were allowed, but were required to meet the performance characteristics of the representative's product. These performance characteristics were arbitrary from the school division's perspective given that there was no effort undertaken to determine the minimum level of performance needed to meet the school's needs.
- The winning bid was submitted by an installer certified by the manufacturer's representative who wrote the specifications. The manufacturer's representative worked with the installer to prepare the bid.
- Only two installers certified to install the product specified in the invitation to bid were within the 50 mile radius set out in the invitation to bid.
- Qualified vendors in the area did not submit bids due to the impression that the specifications favored one manufacturer and one installer. The result was that the school division received only two responsive bids in response to the invitation to bid.
- The invitation to bid specified over 5,000 terminal connections and cable with the capacity to transmit 10 gigabytes of data. Based on the opinion of a registered communications distribution designer and other industry representatives who reviewed the specifications, the design far exceeded the current and foreseeable

future needs of the school. As a result, the low bid exceeded the budget by more than \$500,000 or more than 100%. This could have resulted in wasted capacity tying up limited capital project funds that could have been better utilized for other purposes.

- The invitation to bid required qualified vendors to employ a minimum of 20 cable installers. This qualification was set by the Network Coordinator on the basis that a large company was needed to keep up with the fast pace of construction given the late date at which the invitation to bid was prepared. The manufacturer's representative who wrote the specifications stated that he recommended a minimum of 10 installers as a requirement. There is no record of the construction manager suggesting any minimum. Requiring a large staff in order to bid work discourages participation by small minority and women-owned businesses.
- The original ITB did not include a requirement for a bid bond or a requirement to use the school division's standard contract. As a result, bid bonds were not included in the bid packages increasing the risk that the low bidder might choose not to enter into contract once all bid amount were made public.

Based on our research into the development of the bid, we learned that the Office of Technology was not provided a budget number to work towards when developing the bid specifications. Neither the construction manager nor the construction supervisor reviewed the bid specifications for cost effectiveness or budget adherence prior to the invitation to bid being published.

Finding 03 – Informal Quotation Process

The School division's procurement manual requires departments to obtain at least three quotes for purchases \$1,000 or more and less than \$25,000.

Based on our review of telecom purchases in this range, we found 4 of 13 [31%] purchases were made without obtaining three valid quotes. In 2 of 4 exceptions, the Network Coordinator rejected quotes as non-responsive, indicating that specifications were ineffectively or inappropriately communicated to vendors. The documentation on file for quotes varied in detail making it impossible to determine if the quotes were based on the same specifications. There are several qualified vendors in the local area that can provide telecom equipment and services that could be asked for quotes in those circumstances when a vendor does not respond. One local vendor stated that he stopped responding to requests for quotes from Roanoke City Schools due to frustration and because he never received a courtesy call back to let him know he did not win the work.

While we did not find quotes that were falsified, we were concerned to learn that the Network Coordinator had received gifts of substantial value from vendors who have frequently been awarded work on the basis of informal quotes [see finding 04 for details].

As a result of obtaining fewer quotes than required, there was an increased risk that the most competitive price available was not obtained.

Recommendation 03 – Informal Quotation Process

Requests for quotation forms should be typed with detailed specifications for telecom equipment and services, then provided to vendors. Vendors should be required to document their quotes on the request for quotation forms. All requests for quotation forms should be kept on file with the purchase order. Three quotes should be required in all cases unless the department can show that there are not an adequate number of qualified vendors in the area.

Finding 04 – Gifts Provided to Employee

The Code of Virginia §2.2-4371: Prohibition on solicitation or acceptance of gifts; states that gifts by bidders, offerors, contractors or subcontractors are prohibited. No public employee having responsibility for a procurement transactions shall solicit, demand, accept, or agree to accept from a bidder, offeror, contractor or subcontractor any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal or minimal value.

Roanoke City School Board Policy GBI: Staff Gift Solicitations: The School Board prohibits employees directly or indirectly associated with purchasing or with making recommendations for purchases from accepting gratuities, financial consideration or any other considerations, regardless of value, from present or prospective suppliers of equipment or services to the Board.

RCPS Procurement Manual: Administrative Regulations [p.6] "Procedures Regarding Gifts and Gratuities": The Board prohibits employees directly or indirectly associated with purchasing or with making recommendations for purchases from accepting gratuities, financial consideration or any other considerations, regardless of value, from present or prospective suppliers of equipment or services to the Board. Any employee who is offered or receives such a payment or gift of more than a nominal value shall refuse it or return it to the giver.... Should such an incident occur a memorandum for record shall be prepared setting forth the circumstances."

Based on testimony and records from vendors, we have been able to document that the Network Coordinator for Roanoke City Public Schools received four sets of NASCAR race tickets since August 2001. Based on invoices for two sets of tickets, we estimate the value of these gifts to be at least \$1,700. Based on testimony from other vendors involved and false statements given by the Network Coordinator and a closely associated Sales Representative, we believe there may have been other substantial gifts to the Network Coordinator in 2004 and 2005.

Based on these facts, the Network Coordinator appears to have violated state law and

school board policy. There is an increased risk that the Network Coordinator has manipulated the informal quote process in favor of a preferred vendor. There is an increased risk that the specifications for the Patrick Henry cabling system were purposely structured in such a way as to provide a competitive advantage to the preferred vendor.

Based on our review of the process, we conclude that the system of internal controls over purchasing is inadequate to prevent manipulation of either the informal quote process or the formal bidding process.

Recommendation 04 – Gifts Provided to Employee

All school division employees who are involved, or have the potential to be involved, in purchasing decisions should receive training annually related to procurement laws and regulations.

The school administration should require specifications for telecom projects over \$25,000 to be developed on the basis of a budget that is documented in the bid file. Restrictive clauses such as minimum staff sizes should be justified in writing, approved by Purchasing, and kept in the bid file. Specifying a specific manufacturer's product should require written justification that should be kept in the bid file. If a department requires outside technical expertise to design a project, the department should use an independent expert if funds are available. If funds are not available and a vendor representative is asked for input, the name of the vendor and the input provided should be documented in the bid file.

Management concurs with the recommendations and will comment on the actions taken to date during the Audit Committee meeting.

Conclusion:

Based on the results of our test work, we do not believe telecom equipment and installation services have been procured by the Roanoke City Public School System on the basis of fair and open competition.

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